A CASE STUDY - KRIMIJANYA INDRALUPTA WITH SPECIAL REFERENCE TO ALOPECIA AREATA

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ABSTRACT

Many Ayurvedic texts mentioned hair disorders under Kshudra roga topic commonly with terms Khalitya, Palitya, Indralupta, Darunaka but Sushruta separately mentioned it as Raktadoshaja vikara in Sutrasthana while Vagbhatta has included in chapter Shiroroga pratishedha. Indralupta or Alopecia a dermatological disorder is of great concerns to male, female as well as children’s too which can cause psychological stress to all. Other than a common pathology of Indralupta depicted by most of Acharyas, Sushrutacharya has indirectly mentioned Krimi or worm infestation may be one of the etiopathological/causative factors. This study represents a case of alopecia in a child without any history of major chronic disease or hormonal disorder. Shonitaja krimi, Raktapradoshaja pathogenesis, bald patches along with digestive problems depicts the diagnosis Krimijanya Indralupta which can be correlated with Alopecia areata. Due to child age instead of Shodhana (purification methods), Samshamana therapy having Krimighna, raktaprasadak and keshya properties were used which gave better results. After 03 months treatment excellent improvement was noticed i.e 75% hair roughness was minimized, more than 75% hair fall was stopped and upto 100% in hair loss means not a single bald patch was seen. Results were calculated on the basis of evaluation criteria for improvement in subjective symptoms of Indralupta (Alopecia). The study concludes that subtype, Raktaja krimi directly affect the hair roots causing hair loss along with digestion problems which clearly signifies diagnosis whereas Krimighna drugs not only remove the krimi, but also balances vitiated doshas and improves digestion which is helpful for nourishment of hairs.

Key words: Kshudra roga, Khalitya, Palitya, Indralupta, Darunaka, Raktadoshaja vikara,

INTRODUCTION

Hair, since ancient times are considered as a sign of beauty and its importance are explained under the topic of Cosmetology.

Healthy hairs enhances our personality whereas loss of hairs and its associated problems like premature graying of hair, dandruff or baldness causes negative impact towards the individual also affecting the quality of life indirectly. Today, various harmful synthetic products, therapies or implantation like process are adopted which are very expensive that not only causes economic burden but immense psychological and emotional
stress to individual, concerned parents and siblings too.

Globally, Alopecia\(^1,2\) a dermatological disorder is of great concerns to male, female as well as children’s too. More than 100-150 hair falls per day or thinning of hairs is considered as hair loss or alopecia it may be temporary or permanent. Recent data shows tendency of hair fall has been increased since last two decades. Currently children’s hair loss is responsible for approximately 3% of all pediatrics. Majority of children above 2 years or older are suffering a lot. With a proper diagnosis, most cases of hair loss can be treated successfully. If not treated within time then about 5% of cases the disease progresses to alopecia totalis i.e. loss of all of the hair on the scalp and some may develop Alopecia universalis i.e. a total loss of body hair.

*Kaumarabhritya*, branch of world’s oldest system of health care i.e. Ayurveda merely describes child disorders. While treating children disorders, a perfect causative factor must be ruled out for using few, easily applicable, safe and cost effective drugs giving impressive results without any adverse reactions along with assurance of non-recurrence. The utilization of Ayurvedic drugs traditionally is well known, proved in hair disorders on the basis of evidences. In present case study, *Indralupta* or Alopecia in a child has been presented which has changed the future of the individual child within three months of regular therapy.

Ancient text, Manusmruti has an explanation about “Murdhajakalpa” which is nothing but the setting of hair. In *Brihattrayee samhitas* Kesha is mentioned as mala of *Asthi dhatu*\(^3,4,5\) while *Sharangdhara* mentioned as *updhatu* of *Majja*\(^6\). Most of Acharyas have mentioned *kesha vikara* / hair disorders under the topics of *Kshudra roga* except Vagbhatta mentioned as *Kapalagata rogas*. Some common hair disorder terms mentioned in texts are *Khalitya* means gradual falling of hairs, *Paliitya* means premature graying of hairs, *Indralupta* means sudden hair loss in form of patches or baldness and *Darunaka* means fungal infection of the scalp.

*Indrālupta* इंद्रालुप्त *Indrālupta* इंद्रालुप्त
Kesha नाशो तिरनशालाविका वर्गीय ।
Shabdakalpadrum pp 211.

Sushruta has clearly mentioned that in *Indralupta*, the vein of head should be punctured after oleation (snehana) and sudation (swedana) then paste of some herbo-minerals should be applied. This quote clarifies that *Indralupta* can be considered as patchy hair loss on scalp, face or any other region also.

**Some of the common factors contributing to hair fall/loss:**

As per Ayurveda, Over consumption of *Kshara, lavana*, regular consumption of *Viruddhahara, krimi/worms infestation, angry, irritant nature or ignorance of Pratishhya* (which converts into *Dushta pratishhya*) etc.

There is always a difficulty to diagnose hair disorders as it may be subjective complaint or true disorder and also to analyze its pathogenesis\(^7\). Hair loss sign may be an important clue towards multisystem disorders like Autoimmune, Hormonal or worms infestation, which can lead to unexplained developmental delay.

**Pathogenesis/Samprapti:**

Common pathology depicted by most of Acharyas has emphasized that vitiated *Pitta* along with *Vata* enters the *romakups* (hair follicles) causing hair falls (*Khalitya*) and thereafter *Shleshma* along with *Shonita* obstructs the process of regeneration of new hair causing the condition *Indralupta* (Alopecia), but such type of pathogenesis mainly occurs in adults. Sushruta has mentioned *Indralupta* as *Raktapradoshajika vikara*\(^8\) while Vagbhatta has included hair disorders under the chapter *Shiroroga pratischredha*\(^9\). Because of some potent causes which vitiate *pitta* and *rakta* like teeksha, ushma, kshara, lavana dravya, viruddhahara, apathyaa aahar vihara (unwholesome diet and lifestyle), *adhayashana* etc. produces *rakkadushti* which dries vitiated *kapha* causing obstruction at hair follicles.

The second type of pathogenesis, being a *mala* of *Asthi dhatu*, the disturbance in metabolism or *dhatu kshinata* plays an important role to cause *Indralupta*. Charaka has mentioned hair disorders as *Asthi pradhoshajika vikara*\(^10\).
In third type of pathogenesis responsible etiological factor for Indralupta mainly in child age is Krimi i.e. worms infestation which arises due to some of the above mentioned causes like viruddhahara, adhyashana etc. Hairs are the part of largest organ i.e. skin so Sushruta and Madhava Nidan have considered krimi also one of the causative factor for Kushtha, a major skin disorders. In Ayurvedic texts Abhyantara krimi are of four types i.e. purishaja, shleshmaja / kaphaja, shonitaja / raktaja and malaja while Sushruta clearly mentioned viruddhasana, ajeerna and leafy vegetables as main causes. Further Shonitaja krimi has been divided into seven subtypes keshada, romada, nakhirada, dantada, kikkisa, kushtha and parisarp by Sushruta while Charaka and Madhavanidana mentioned only six subtypes as keshada, lamada / romavidhans, lomadvipa / romadvipa, udumbara, saurus and jantunatar / matar. Raktavahi sira/dhamani (blood vessels) are their surviving sthanal place where as they havoc/ruins the hairs of head, beard, moustache, eyelids and body which can be clinically correlated to hair loss/Alopecia. If not treated early or their number increases (ativruddhi) they can engulf the skin, vessels, muscles, tissues and even cartilage. Numbers of hairs are equal to number of sira and dhamani in the body.

According to Modern science –
Human hairs grow and fall that’s a very normal growing process. But in some people the rate at which hair falls is much greater than the rate at which it grows. If hair falls from the follicles i.e. the hair roots, than the chances that it will grow back again from that point are almost zero. The result is that the person become blado in the medical world, this condition is called as alopecia. Alopecia areata is a chronic, organ-specific autoimmune disease, which affects hair follicles and sometimes the nails. Loss of hair causing bald patches without scarring of the affected area may affect the entire scalp. Modern life style, avoidance of head bath, usages of harmful shampoos, allergic manifestations, reduced body resistance, hormonal imbalance, and malnutrition lead to poor hygiene of scalp.

**Types of alopecia**

**Scarring type:** inflammation and hair loss including follicles and creates smooth scalp

**Non scarring type:** hair follicles are preserved, but hair shafts go away

**Its clinical presentation** –

1. Oval bald patch (commonly seen, smooth, shiny involving the scalp or any other hair-bearing area).
2. ‘Exclamation-mark’ (broken, short hairs that taper proximally, present at its margin)
3. Pattern may be - Classical patchy (most common), Reticulated pattern, Ophiasis band like (hair loss in the parietal temporo-occipital scalp) and Sisaphio (a band of hair loss in the frontal parieto-temporal scalp).

1. According to extent of hair loss -
   a) **Alopecia areata** - typical form with sudden partial hair loss causing bald patches on scalp.
   b) **Alopecia totalis** - Untreated alopecia areata or not responding to treatment then complete baldness (100% loss of scalp hair).
   c) **Alopecia universalis** - When the entire body suffers from complete hair loss, (100% loss of hair on the scalp and body).

Evaluation of hair loss in a child should always include a detailed history, physical examination and microscopic examination of the hair. Along with hair loss history, onset of hair loss (sudden or insidious), extent of alopecia (localized or diffuse), any hair shaft anomalies, signs of inflammation and associated symptoms must be notified.

**CASE STUDY**

A 9 years old boy visited RARISD, OPD with C.R.no.-3020/2015-16 on 23.01.2016 with -

**Chief complaints:** 4 to 5 oval shape bald patches on scalp since 4 - 5 months without any itching or tingling or pain like sensation and sudden loss of hairs mostly while combing and after bath.

**Systemic examination**

1. Appetite/kshudha - normal
   (But consumption of food quantity less)
2. Pulse - 86/min.
3. Tongue - normal/mirama
4. Skin - dryness, nisteja
5. Stool - irregular
Investigations:
Haemoglobin - 13.0 gm/dl
ESR - 06

Personal history: Dribbling of saliva from angle of mouth during sleep since 3-4 months; karshyata (weak/lean body); unsatisfied weight gain as per age since one year; tandra (feeling of sleepiness), aalasya and aruchi (Anorexia).

Family history: None.

Clinical assessment
1. To assess the effect of therapy, subjective symptoms criteria like hair texture, hair fall and hair loss (Table 1) were considered. Evaluation of results was done on the basis of Improvement (%) (Table 2).
2. Photographs: Before & After treatment was observed.

Table 1: Assessment Criteria for subjective symptoms of Indralupta:

<table>
<thead>
<tr>
<th></th>
<th>Score</th>
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<tbody>
<tr>
<td>1. Hair texture examination</td>
<td></td>
</tr>
<tr>
<td>Smooth hair surface</td>
<td>0</td>
</tr>
<tr>
<td>Occasional roughness of hair surface</td>
<td>1</td>
</tr>
<tr>
<td>Slight roughness of hair surface</td>
<td>2</td>
</tr>
<tr>
<td>Rough hair surface</td>
<td>3</td>
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</tbody>
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<table>
<thead>
<tr>
<th></th>
<th>Score</th>
</tr>
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<tbody>
<tr>
<td>2. Hair fall &gt; 100 per day</td>
<td></td>
</tr>
<tr>
<td>Absent 0 - 50</td>
<td>0</td>
</tr>
<tr>
<td>Mild (hair fall on washing) 51 - 100</td>
<td>1</td>
</tr>
<tr>
<td>Moderate (hair fall on combing) 101-150</td>
<td>2</td>
</tr>
<tr>
<td>Severe (hair fall on simple strengthening) &gt; 150</td>
<td>3</td>
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</tbody>
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<table>
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<tr>
<th></th>
<th>Score</th>
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<tbody>
<tr>
<td>3. Hair loss or Alopecia</td>
<td></td>
</tr>
<tr>
<td>Scalp not seen by naked eye</td>
<td>0</td>
</tr>
<tr>
<td>Scalp slightly seen by naked eye</td>
<td>1</td>
</tr>
<tr>
<td>Scalp can be seen by naked eye/thinning of hairs</td>
<td>2</td>
</tr>
<tr>
<td>Scalp clearly seen by naked eye/bald patch</td>
<td>3</td>
</tr>
</tbody>
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Table 2: Evaluation of improvement on subjective symptoms of Indralupta:

<table>
<thead>
<tr>
<th></th>
<th>Improvement</th>
<th>Result %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Hair texture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rough hair surface</td>
<td>Poor to Less</td>
<td>0-25</td>
</tr>
<tr>
<td>Slight roughness of hair surface</td>
<td>Fair</td>
<td>50</td>
</tr>
<tr>
<td>Occasional roughness of hair surface</td>
<td>Good</td>
<td>75</td>
</tr>
<tr>
<td>Smooth hair surface</td>
<td>Excellent</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Improvement</th>
<th>Result %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Hair fall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severe &gt; 150 (hair fall on simple stretching)</td>
<td>Poor or Less</td>
<td>0-25</td>
</tr>
<tr>
<td>Moderate 101-150 (hair fall on combing)</td>
<td>Fair</td>
<td>50</td>
</tr>
<tr>
<td>Mild 51-100 (hair fall on washing)</td>
<td>Good</td>
<td>75</td>
</tr>
<tr>
<td>Absent 0 – 50</td>
<td>Excellent</td>
<td>100</td>
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<td>100</td>
</tr>
</tbody>
</table>

On local examination: Smooth, shiny appearance of bald patches without black spots or exclamation of hairs. No signs of inflammation or dandruff.

Measurements: (Photograph 1: Before treatment) - 03 major bald patches since 4 - 5 months:
1. 5 x 3.3 cms on parietal aspect
2. 4 x 3 cms on left of upper occipital region
3. 3 x 2 cms on right of temporal- parietal region
02 small bald patches since 02 months
1. 2.5 x 2 cms on left of lower occipital region (3 cms behind the left ear)
2. 1 x 1 cms on right of lower occipital region

Samprapti Ghataka (etio-pathological factors)
Dosha- Pitta, kapha;
Dushya- Rasa and Rakta;
Provisional diagnosis: Indralupta and Krimi

Diagnosis: Krimijanya Indralupta

Subjective symptoms examination: (Table 1)

1. Hair texture (on touch) : roughness (Score 3)
2. Hair fall (on combing) : > 100 (Score 2)
3. Hair loss (Scalp only) : bald patches (Score 3)

Line of treatment:
1. Krimighna
2. Pitta shamaka and Raktaprasadak
3. Keshya
4. Rasayana

Treatment:
2. Dhauturadi taila (Sahasrayoga - IMPCL, Uttarakhandha) with coconut oil - local application over scalp before sleep twice weekly. (Applied to scalp and done gentle massage for 5-10 minutes)
3. Kasis bhasma + Bhringaraj churna - paste applied one alternate day on bald patches only in morning hours (for 30 minutes only).
4. Chyavanaprasha - 2.5 gms OD in morning empty stomach was prescribed after 03 months of therapy for next 03 months.

Treatement protocol: Includes drugs, diet and lifestyle changes for non-recurrence of disease.

Nidana parivarjan: Avoid all the causative factors mentioned above like milk, leafy vegetables, curd etc.

Samshodhana Chikitsa: Samshodhana procedures like Nasya, Prachchhana karma/ raktamokshhana etc.

Samshama: Shiroabhyanga, Shirolepa externally along with oral medicines and rasayana should be preferred as per pathogenesis.

But Sushruta has mentioned that Raktaja krimi (romada) should be treated same as Indralupta which indirectly suggests it might be one of the etiological factors for hair loss.

Krimighna: There are so many Krimighna/anthelmintic formulations used like Krimikuthar ras, Vidangarishtha, Vidangadi churna, Kankayan guti, Kapila vati, Kutajarishtha, Navayas Churna etc. But due to child age factor and Raktapradosha pathogenesis, Vidangadya lauha formulation was preferred. Vidanga well known Krimighna drug but lauha also has krimihar action as mentioned in Trapvadi varga in Sushruta.

Vidanga due to pungent, hot potency and laghu pitta, stimulates appetite, increases digestive power, support the intestines, keep the digestive system healthy removes toxins, improves blood circulation and it is also known for its blood purifying properties. It not only kills all types of the intestinal worms but also destroys the habitat suitable for worms.

Loha bhasma is the main ingredient having pitta shama, raka prasadaka and krimihar properties is useful in krimi, anemia, fatigue, cachexia, increases appetite, relieves constipation and enhances complexion/ kantijanan. It increases blood flow in the peripheral blood vessels of subcutaneous tissues in the scalp.

Kesha:

केशमया हृत-वधनरुजनादनातानिपरस्तहाईः ॥ ३०

Kesha dravya or keshya karma means beneficial for hairs or useful in hairs disorders. They act either by purifying or by pacifying the vitiated doshas, nourishing hair follicles, maintain hair beauty and are useful in the treatment of hair disorders. As per mechanism of action these useful drugs are classified as Kesha dravya (hair tonics, hair growth promoting), Srotorodha nashak (removing the obstruction) and Kesharanjaka (hair dyes) etc.

रसवहस्ततारसाधारत् कशाना पाण्य न भवत् ।

Some drugs remove obstruction from Rasavaha, Raktavaha channels or at the hair follicles level (romakupas) and prepare way for nourishment of hairs while some corrects Asthi dhatu metabolism like Musta, Guduchi etc.

तत्र भृगरजः लहिरुद्द व स्थनत: शापन कृत्व ॥

कशाना पाण्यः करात्त: कश: आर्थाधातुः महः ॥

Bhringraj (Eclipta Alba, Family Compositae): Katu, tikta rasa, katu vipaka, Ushna virya and teekshna, ruksa qualities having kapha vata
shamatk action and keshya property. It liquefies Pichhila, guru and sheeta kapha by ruksha and ushna properties and purifies the channels (Srotosodhana). It helps to eradicate infection by its Krimighna, Kandughna and Vishaghna properties. The leaves of the plant contain a rich amount of protein; its extract is considered a powerful rejuvenative and especially good for the hair. It prevents hair fall, rejuvenates the hair and restores the natural colour of hair by strengthening the roots of the hair, makes hair more manageable and brings damaged hair back to life.

Kasis bhasma (Ferrous sulphate) - Kashaya, katu, ushna, grahee properties balances vata and kapha, raktavardhaka, increases blood circulation and useful in hair loss/alopoeica conditions.

Dhaturadi/Dhurthuratradhi thailam - useful for itching scalp, dandruff and hair fall. Due to kandu and kriminashaka action it eliminates dandruff, promotes growth of hair effectively by liquefying dried Kaptha in the pores of scalp locally. It basically improves the scalp skin health and strengthens the hair root. It is good and safe for children to apply on head and body. So it was preferred instead of Bhringaraja, Nilibhringadi, Triphaladi, Yashtimidhuka taila etc.

Dhaturadi thailam: 1/2
Sahasra yoga – Tailayoga Prakarana
Rasayana - Chyavanaprasha or Amalaki rasayana or Narasimha rasayana after therapy promotes hair growth by rejuvenation, keshya, keshavardhana, balya action.

Pathya - Apathya (Diet regimen):
Increase intake of Seasonal fruits (rich in fiber, prevents hair fall) like snake gourd, capsicum, bitter gourd, drumstick, radish, garlic etc. Drink fresh juices of carrot and spinach for aiding in hair growth. Sweet potatoes, orange vegetables like carrots, pumpkin and mangoes, filled with antioxidant beta carotene, which turns into vitamin A that helps to protect against dry, dull hair. It also encourages the glands in your scalp to make an oily fluid called sebum that keeps hair from drying out. Seeds, nuts, grains and Sprouts should be taken on a regular basis. Drink plenty of water (flushes out the toxins that have accumulated in body). Massage scalp/Shiroabhyanga and pada abhyanga, cleansing of scalp and hair is advised regularly.

Avoid Sweets, bread, jam, noodles, cheese, pastries and other bakery products and junk food specially milk, meat, curd, sour and cold things. Stop day sleep and over eating too.

Observation and Result:
On examining the child, bald patches signifies Indralupta but other than sudden hair loss signs dribbling of saliva during sleep, less consumption of food, tanda, aalasya, irregular defecation etc. drives attention towards abnormality of digestive system also weight gain was not proper as per age. All these signs were directing towards Krimi vikara. Krimi or worms is one of the most common and important aspect causing health problems in children. They manifest themselves by various symptoms not every child with worms will have all the symptoms, but few of these may help to diagnose. Due to Krimi and Raka pradhoshaja pathogenesis there is loss in flexibility in the subcutaneous tissues of scalp which causes the reduction in the blood flow in the peripheral blood vessels that adversely affects hair follicles and hair growth.

At the end of 3 months therapy, before treatment hair texture roughness (Score 3) was changed to occasional roughness (75%) means good improvement. In hair fall (Score 2) gradual cessation was observed giving excellent (75%) improvement whereas hair loss/bald patch (Score 3) not a single patch was seen with naked eyes showing excellent result (75 to 100%).

CONCLUSION
In this study, krimi were the responsible factor for the development of pathogenesis/samprapti of Indralupta along with Pitta and rakta dushti. Shonita krimi, subtypes directly affect the hair roots causing hair loss along with digestion problems which clearly signifies diagnosis. Result concludes that Krimighna drugs not only remove the krimi, but also balances vitiated doshas and improves digestion helpful for nourishment of hairs. Lauha supplements mainly acts as pitta shama with rakta rasadak action. Whereas locally applied drugs cleanses channels
(Srotosodhana), enhances peripheral blood circulation towards hair follicle which facilitates good absorption of drugs, cessation of hair loss, strengthening hair roots and promoting growth of new hairs.

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**Photographs 1: Before treatment**

![Before treatment Temporal & parietal view](image1.png)

![Before treatment Occipital view](image2.png)

**Photographs 2: After treatment**

![After treatment Temporal & parietal view](image3.png)

![After treatment Occipital view](image4.png)

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